

**ANALYTICAL RESULTS**

Prepared for:

SUN: Aquaterra Tech.  
PO Box 744  
West Chester PA 19381

610-431-5733

Prepared by:

Lancaster Laboratories  
2425 New Holland Pike  
Lancaster, PA 17605-2425**SAMPLE GROUP**

The sample group for this submittal is 992976. Samples arrived at the laboratory on Friday, June 09, 2006.  
The PO# for this group is SUNOCO PHILLY REFINER.

**Client Description****Lancaster Labs Number**

B45-060806 Grab Water Sample	4790619
B158-060806 Grab Water Sample	4790620
B48-060806 Grab Water Sample	4790621
B48D-060806 Grab Water Sample	4790622
B160-060806 Grab Water Sample	4790623
B159-060806 Grab Water Sample	4790624
B151-060806 Grab Water Sample	4790625
B154-060806 Grab Water Sample	4790626
B156-060806 Grab Water Sample	4790627
B155-060806 Grab Water Sample	4790628
B149-060806 Grab Water Sample	4790629
B153-060906 Grab Water Sample	4790630
B152-060906 Grab Water Sample	4790631
B94-060906 Grab Water Sample	4790632
WPM8-060906 Grab Water Sample	4790633
WPM11-060906 Grab Water Sample	4790634
B163-060906 Grab Water Sample	4790635
B145-060906 Grab Water Sample	4790636
WP16-5-060906 Grab Water Sample	4790637
B157-060906 Grab Water Sample	4790638

ELECTRONIC      SUN: Aquaterra Tech.

Attn: Brad Spancake

COPY TO  
ELECTRONIC      Langan  
COPY TO  
ELECTRONIC      Langan  
COPY TO

Attn: Jason Hanna

Attn: Joseph Catricks

Questions? Contact your Client Services Representative  
Rebecca J Shettel at (717) 656-2300

Respectfully Submitted,



Michele J. Smith  
Group Leader

Lancaster Laboratories Sample No. WW 4790619

B45-060806 Grab Water Sample  
SUN: Philadelphia Refinery AOI-6

Collected: 06/08/2006 11:50 by MBS

Account Number: 10132

Submitted: 06/09/2006 18:00  
Reported: 06/29/2006 at 14:21  
Discard: 07/30/2006

SUN: Aquaterra Tech.  
PO Box 744  
West Chester PA 19381

B45--

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation*	As Received Method Detection Limit	Units	Dilution Factor
06035	Lead	7439-92-1	< 0.0010	0.0010	0.000047	mg/l	1
07879	EDB in Wastewater						
01087	Ethylene dibromide	106-93-4	< 0.029	0.029	0.0095	ug/l	1
07805	PAHs in Water by GC/MS						
03947	Naphthalene	91-20-3	< 5.	5.	1.	ug/l	1
03956	Fluorene	86-73-7	< 5.	5.	1.	ug/l	1
03963	Phenanthrene	85-01-8	< 5.	5.	1.	ug/l	1
03967	Pyrene	129-00-0	< 5.	5.	1.	ug/l	1
03971	Chrysene	218-01-9	< 5.	5.	1.	ug/l	1
02302	UST-Waters by 8260B						
02010	Methyl Tertiary Butyl Ether	1634-04-4	< 5.	5.	0.5	ug/l	1
05401	Benzene	71-43-2	< 5.	5.	0.5	ug/l	1
05402	1,2-Dichloroethane	107-06-2	< 5.	5.	1.	ug/l	1
05407	Toluene	108-88-3	< 5.	5.	0.7	ug/l	1
05415	Ethylbenzene	100-41-4	< 5.	5.	0.8	ug/l	1
05420	Isopropylbenzene	98-82-8	< 5.	5.	1.	ug/l	1
06310	Xylene (Total)	1330-20-7	< 5.	5.	0.8	ug/l	1

Commonwealth of Pennsylvania Lab Certification No. 36-037  
This sample was filtered in the lab for dissolved metals.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

## Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
06035	Lead	SW-846 6020	1	06/19/2006 20:32	David K Beck	1
07879	EDB in Wastewater	SW-846 8011	1	06/16/2006 13:05	James H Place	1
07805	PAHs in Water by GC/MS	SW-846 8270C	1	06/16/2006 23:34	William T Parker	1
02302	UST-Waters by 8260B	SW-846 8260B	1	06/15/2006 00:24	Kelly E Brickley	1

\*=This limit was used in the evaluation of the final result

**Lancaster Laboratories Sample No. WW 4790619****B45-060806 Grab Water Sample****SUN: Philadelphia Refinery AOI-6**

Collected: 06/08/2006 11:50 by MBS

Account Number: 10132

Submitted: 06/09/2006 18:00

SUN: Aquaterra Tech.

Reported: 06/29/2006 at 14:21

PO Box 744

Discard: 07/30/2006

West Chester PA 19381

B45--

01163	GC/MS VOA Water Prep	SW-846 5030B	1	06/15/2006 00:24	Kelly E Brickley	1
06050	ICP/MS SW-846 Water	SW-846 3010A modified	1	06/18/2006 18:33	James L Mertz	1
07786	EDB Extraction	SW-846 8011	1	06/13/2006 13:00	Deborah M Zimmerman	1
07807	BNA Water Extraction	SW-846 3510C	1	06/13/2006 07:30	Danette S Cavalier	1

Lancaster Laboratories Sample No. WW 4790620

B158-060806 Grab Water Sample  
SUN: Philadelphia Refinery AOI-6

Collected: 06/08/2006 12:05 by MBS

Account Number: 10132

Submitted: 06/09/2006 18:00  
Reported: 06/29/2006 at 14:21  
Discard: 07/30/2006

SUN: Aquaterra Tech.  
PO Box 744  
West Chester PA 19381

B158-

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation*	As Received Method Detection Limit	Units	Dilution Factor
06035	Lead	7439-92-1	< 0.0010	0.0010	0.000047	mg/l	1
07879	EDB in Wastewater						
01087	Ethylene dibromide	106-93-4	< 0.029	0.029	0.0096	ug/l	1
07805	PAHs in Water by GC/MS						
03947	Naphthalene	91-20-3	< 5.	5.	1.	ug/l	1
03956	Fluorene	86-73-7	< 5.	5.	1.	ug/l	1
03963	Phenanthrene	85-01-8	< 5.	5.	1.	ug/l	1
03967	Pyrene	129-00-0	< 5.	5.	1.	ug/l	1
03971	Chrysene	218-01-9	< 5.	5.	1.	ug/l	1
02302	UST-Waters by 8260B						
02010	Methyl Tertiary Butyl Ether	1634-04-4	< 5.	5.	0.5	ug/l	1
05401	Benzene	71-43-2	< 5.	5.	0.5	ug/l	1
05402	1,2-Dichloroethane	107-06-2	< 5.	5.	1.	ug/l	1
05407	Toluene	108-88-3	< 5.	5.	0.7	ug/l	1
05415	Ethylbenzene	100-41-4	< 5.	5.	0.8	ug/l	1
05420	Isopropylbenzene	98-82-8	< 5.	5.	1.	ug/l	1
06310	Xylene (Total)	1330-20-7	< 5.	5.	0.8	ug/l	1

Commonwealth of Pennsylvania Lab Certification No. 36-037  
This sample was filtered in the lab for dissolved metals.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

## Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
06035	Lead	SW-846 6020	1	06/19/2006 21:12	David K Beck	1
07879	EDB in Wastewater	SW-846 8011	1	06/16/2006 13:35	James H Place	1
07805	PAHs in Water by GC/MS	SW-846 8270C	1	06/17/2006 00:25	William T Parker	1
02302	UST-Waters by 8260B	SW-846 8260B	1	06/15/2006 00:48	Kelly E Brickley	1

\*=This limit was used in the evaluation of the final result



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Lancaster Laboratories Sample No. WW 4790620

B158-060806 Grab Water Sample

SUN: Philadelphia Refinery AOI-6

Collected: 06/08/2006 12:05 by MBS

Account Number: 10132

Submitted: 06/09/2006 18:00

SUN: Aquaterra Tech.

Reported: 06/29/2006 at 14:21

PO Box 744

Discard: 07/30/2006

West Chester PA 19381

B158-

01163	GC/MS VOA Water Prep	SW-846 5030B	1	06/15/2006 00:48	Kelly E Brickley	1
06050	ICP/MS SW-846 Water	SW-846 3010A modified	1	06/18/2006 18:33	James L Mertz	1
07786	EDB Extraction	SW-846 8011	1	06/13/2006 13:00	Deborah M Zimmerman	1
07807	BNA Water Extraction	SW-846 3510C	1	06/13/2006 07:30	Danette S Cavalier	1

\*=This limit was used in the evaluation of the final result

Lancaster Laboratories Sample No. WW 4790621

B48-060806 Grab Water Sample  
SUN: Philadelphia Refinery AOI-6

Collected: 06/08/2006 12:35 by MBS

Account Number: 10132

Submitted: 06/09/2006 18:00  
Reported: 06/29/2006 at 14:21  
Discard: 07/30/2006

SUN: Aquaterra Tech.  
PO Box 744  
West Chester PA 19381

B48--

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation*	As Received Method Detection Limit	Units	Dilution Factor
06035	Lead	7439-92-1	< 0.0010	0.0010	0.000047	mg/l	1
07879	EDB in Wastewater						
01087	Ethylene dibromide	106-93-4	< 0.028	0.028	0.0095	ug/l	1
07805	PAHs in Water by GC/MS						
03947	Naphthalene	91-20-3	< 5.	5.	1.	ug/l	1
03956	Fluorene	86-73-7	6.	5.	1.	ug/l	1
03963	Phenanthrene	85-01-8	< 5.	5.	1.	ug/l	1
03967	Pyrene	129-00-0	< 5.	5.	1.	ug/l	1
03971	Chrysene	218-01-9	< 5.	5.	1.	ug/l	1
02302	UST-Waters by 8260B						
02010	Methyl Tertiary Butyl Ether	1634-04-4	< 5.	5.	0.5	ug/l	1
05401	Benzene	71-43-2	< 5.	5.	0.5	ug/l	1
05402	1,2-Dichloroethane	107-06-2	< 5.	5.	1.	ug/l	1
05407	Toluene	108-88-3	< 5.	5.	0.7	ug/l	1
05415	Ethylbenzene	100-41-4	< 5.	5.	0.8	ug/l	1
05420	Isopropylbenzene	98-82-8	< 5.	5.	1.	ug/l	1
06310	Xylene (Total)	1330-20-7	< 5.	5.	0.8	ug/l	1

Commonwealth of Pennsylvania Lab Certification No. 36-037  
This sample was filtered in the lab for dissolved metals.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

## Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
06035	Lead	SW-846 6020	1	06/19/2006 21:15	David K Beck	1
07879	EDB in Wastewater	SW-846 8011	1	06/16/2006 14:35	James H Place	1
07805	PAHs in Water by GC/MS	SW-846 8270C	1	06/17/2006 01:16	William T Parker	1
02302	UST-Waters by 8260B	SW-846 8260B	1	06/15/2006 01:10	Kelly E Brickley	1

\*=This limit was used in the evaluation of the final result



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Lancaster Laboratories Sample No. WW 4790621

B48-060806 Grab Water Sample

SUN: Philadelphia Refinery AOI-6

Collected: 06/08/2006 12:35 by MBS

Account Number: 10132

Submitted: 06/09/2006 18:00

SUN: Aquaterra Tech.

Reported: 06/29/2006 at 14:21

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Discard: 07/30/2006

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B48--

01163	GC/MS VOA Water Prep	SW-846 5030B	1	06/15/2006 01:10	Kelly E Brickley	1
06050	ICP/MS SW-846 Water	SW-846 3010A modified	1	06/18/2006 18:33	James L Mertz	1
07786	EDB Extraction	SW-846 8011	1	06/13/2006 13:00	Deborah M Zimmerman	1
07807	BNA Water Extraction	SW-846 3510C	1	06/13/2006 07:30	Danette S Cavalier	1

\*=This limit was used in the evaluation of the final result



**Lancaster Laboratories Sample No. WW 4790622**
**B48D-060806 Grab Water Sample**  
**SUN: Philadelphia Refinery AOI-6**

Collected: 06/08/2006 12:20 by MBS

Account Number: 10132

Submitted: 06/09/2006 18:00  
Reported: 06/29/2006 at 14:21  
Discard: 07/30/2006

SUN: Aquaterra Tech.  
PO Box 744  
West Chester PA 19381

B48D-

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation*	As Received Method Detection Limit	Units	Dilution Factor
06035	Lead	7439-92-1	< 0.0010	0.0010	0.000047	mg/l	1
07879	EDB in Wastewater						
01087	Ethylene dibromide	106-93-4	< 0.029	0.029	0.0095	ug/l	1
07805	PAHs in Water by GC/MS						
03947	Naphthalene	91-20-3	< 5.	5.	1.	ug/l	1
03956	Fluorene	86-73-7	< 5.	5.	1.	ug/l	1
03963	Phenanthrene	85-01-8	< 5.	5.	1.	ug/l	1
03967	Pyrene	129-00-0	< 5.	5.	1.	ug/l	1
03971	Chrysene	218-01-9	< 5.	5.	1.	ug/l	1
02302	UST-Waters by 8260B						
02010	Methyl Tertiary Butyl Ether	1634-04-4	< 5.	5.	0.5	ug/l	1
05401	Benzene	71-43-2	< 5.	5.	0.5	ug/l	1
05402	1,2-Dichloroethane	107-06-2	< 5.	5.	1.	ug/l	1
05407	Toluene	108-88-3	< 5.	5.	0.7	ug/l	1
05415	Ethylbenzene	100-41-4	< 5.	5.	0.8	ug/l	1
05420	Isopropylbenzene	98-82-8	< 5.	5.	1.	ug/l	1
06310	Xylene (Total)	1330-20-7	< 5.	5.	0.8	ug/l	1

Commonwealth of Pennsylvania Lab Certification No. 36-037  
This sample was filtered in the lab for dissolved metals.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

## Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
06035	Lead	SW-846 6020	1	06/19/2006 21:19	David K Beck	1
07879	EDB in Wastewater	SW-846 8011	1	06/16/2006 15:05	James H Place	1
07805	PAHs in Water by GC/MS	SW-846 8270C	1	06/17/2006 02:08	William T Parker	1
02302	UST-Waters by 8260B	SW-846 8260B	1	06/15/2006 01:34	Kelly E Brickley	1

\*=This limit was used in the evaluation of the final result

**Lancaster Laboratories Sample No. WW 4790622****B48D-060806 Grab Water Sample****SUN: Philadelphia Refinery AOI-6**

Collected: 06/08/2006 12:20 by MBS

Account Number: 10132

Submitted: 06/09/2006 18:00

SUN: Aquaterra Tech.

Reported: 06/29/2006 at 14:21

PO Box 744

Discard: 07/30/2006

West Chester PA 19381

B48D-

01163	GC/MS VOA Water Prep	SW-846 5030B	1	06/15/2006 01:34	Kelly E Brickley	1
06050	ICP/MS SW-846 Water	SW-846 3010A modified	1	06/18/2006 18:33	James L Mertz	1
07786	EDB Extraction	SW-846 8011	1	06/13/2006 13:00	Deborah M Zimmerman	1
07807	BNA Water Extraction	SW-846 3510C	1	06/13/2006 07:30	Danette S Cavalier	1

Lancaster Laboratories Sample No. WW 4790623

B160-060806 Grab Water Sample  
SUN: Philadelphia Refinery AOI-6

Collected: 06/08/2006 12:50 by MBS

Account Number: 10132

Submitted: 06/09/2006 18:00  
Reported: 06/29/2006 at 14:21  
Discard: 07/30/2006

SUN: Aquaterra Tech.  
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West Chester PA 19381

B160-

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation*	As Received Method Detection Limit	Units	Dilution Factor
06035	Lead	7439-92-1	< 0.0010	0.0010	0.000047	mg/l	1
07879	EDB in Wastewater						
01087	Ethylene dibromide	106-93-4	< 0.029	0.029	0.0096	ug/l	1
07805	PAHs in Water by GC/MS						
03947	Naphthalene	91-20-3	< 5.	5.	1.	ug/l	1
03956	Fluorene	86-73-7	< 5.	5.	1.	ug/l	1
03963	Phenanthrene	85-01-8	< 5.	5.	1.	ug/l	1
03967	Pyrene	129-00-0	< 5.	5.	1.	ug/l	1
03971	Chrysene	218-01-9	< 5.	5.	1.	ug/l	1
02302	UST-Waters by 8260B						
02010	Methyl Tertiary Butyl Ether	1634-04-4	< 5.	5.	0.5	ug/l	1
05401	Benzene	71-43-2	< 5.	5.	0.5	ug/l	1
05402	1,2-Dichloroethane	107-06-2	< 5.	5.	1.	ug/l	1
05407	Toluene	108-88-3	< 5.	5.	0.7	ug/l	1
05415	Ethylbenzene	100-41-4	< 5.	5.	0.8	ug/l	1
05420	Isopropylbenzene	98-82-8	< 5.	5.	1.	ug/l	1
06310	Xylene (Total)	1330-20-7	< 5.	5.	0.8	ug/l	1

Commonwealth of Pennsylvania Lab Certification No. 36-037  
This sample was filtered in the lab for dissolved metals.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

## Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
06035	Lead	SW-846 6020	1	06/19/2006 21:22	David K Beck	1
07879	EDB in Wastewater	SW-846 8011	1	06/16/2006 15:35	James H Place	1
07805	PAHs in Water by GC/MS	SW-846 8270C	1	06/18/2006 21:02	William T Parker	1
02302	UST-Waters by 8260B	SW-846 8260B	1	06/15/2006 01:57	Kelly E Brickley	1

\*=This limit was used in the evaluation of the final result



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Lancaster Laboratories Sample No. WW 4790623

B160-060806 Grab Water Sample

SUN: Philadelphia Refinery AOI-6

Collected: 06/08/2006 12:50 by MBS

Account Number: 10132

Submitted: 06/09/2006 18:00

SUN: Aquaterra Tech.

Reported: 06/29/2006 at 14:21

PO Box 744

Discard: 07/30/2006

West Chester PA 19381

B160-

01163	GC/MS VOA Water Prep	SW-846 5030B	1	06/15/2006 01:57	Kelly E Brickley	1
06050	ICP/MS SW-846 Water	SW-846 3010A modified	1	06/18/2006 18:33	James L Mertz	1
07786	EDB Extraction	SW-846 8011	1	06/13/2006 13:00	Deborah M Zimmerman	1
07807	BNA Water Extraction	SW-846 3510C	1	06/13/2006 07:30	Danette S Cavalier	1

\*=This limit was used in the evaluation of the final result

**Lancaster Laboratories Sample No. WW 4790624**
**B159-060806 Grab Water Sample**  
**SUN: Philadelphia Refinery AOI-6**

Collected: 06/08/2006 13:00 by MBS

Account Number: 10132

Submitted: 06/09/2006 18:00  
Reported: 06/29/2006 at 14:21  
Discard: 07/30/2006

SUN: Aquaterra Tech.  
PO Box 744  
West Chester PA 19381

B159-

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation*	As Received Method Detection Limit	Units	Dilution Factor
06035	Lead	7439-92-1	< 0.0010	0.0010	0.000047	mg/l	1
07879	EDB in Wastewater						
01087	Ethylene dibromide	106-93-4	< 0.029	0.029	0.0096	ug/l	1
07805	PAHs in Water by GC/MS						
03947	Naphthalene	91-20-3	< 5.	5.	1.	ug/l	1
03956	Fluorene	86-73-7	9.	5.	1.	ug/l	1
03963	Phenanthrene	85-01-8	< 5.	5.	1.	ug/l	1
03967	Pyrene	129-00-0	< 5.	5.	1.	ug/l	1
03971	Chrysene	218-01-9	< 5.	5.	1.	ug/l	1
02302	UST-Waters by 8260B						
02010	Methyl Tertiary Butyl Ether	1634-04-4	< 5.	5.	0.5	ug/l	1
05401	Benzene	71-43-2	< 5.	5.	0.5	ug/l	1
05402	1,2-Dichloroethane	107-06-2	< 5.	5.	1.	ug/l	1
05407	Toluene	108-88-3	< 5.	5.	0.7	ug/l	1
05415	Ethylbenzene	100-41-4	< 5.	5.	0.8	ug/l	1
05420	Isopropylbenzene	98-82-8	< 5.	5.	1.	ug/l	1
06310	Xylene (Total)	1330-20-7	< 5.	5.	0.8	ug/l	1

Commonwealth of Pennsylvania Lab Certification No. 36-037  
This sample was filtered in the lab for dissolved metals.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

## Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
06035	Lead	SW-846 6020	1	06/19/2006 21:26	David K Beck	1
07879	EDB in Wastewater	SW-846 8011	1	06/16/2006 16:05	James H Place	1
07805	PAHs in Water by GC/MS	SW-846 8270C	1	06/15/2006 09:31	Mark A Clark	1
02302	UST-Waters by 8260B	SW-846 8260B	1	06/15/2006 02:45	Kelly E Brickley	1

\*=This limit was used in the evaluation of the final result

**Lancaster Laboratories Sample No. WW 4790624****B159-060806 Grab Water Sample****SUN: Philadelphia Refinery AOI-6**

Collected: 06/08/2006 13:00 by MBS

Account Number: 10132

Submitted: 06/09/2006 18:00

SUN: Aquaterra Tech.

Reported: 06/29/2006 at 14:21

PO Box 744

Discard: 07/30/2006

West Chester PA 19381

B159-

01163	GC/MS VOA Water Prep	SW-846 5030B	1	06/15/2006 02:45	Kelly E Brickley	1
06050	ICP/MS SW-846 Water	SW-846 3010A modified	1	06/18/2006 18:33	James L Mertz	1
07786	EDB Extraction	SW-846 8011	1	06/13/2006 13:00	Deborah M Zimmerman	1
07807	BNA Water Extraction	SW-846 3510C	1	06/14/2006 08:00	Joseph S Feister	1

**Lancaster Laboratories Sample No. WW 4790625**
**B151-060806 Grab Water Sample**  
**SUN: Philadelphia Refinery AOI-6**

Collected: 06/08/2006 13:20 by MBS

Account Number: 10132

Submitted: 06/09/2006 18:00  
Reported: 06/29/2006 at 14:21  
Discard: 07/30/2006

SUN: Aquaterra Tech.  
PO Box 744  
West Chester PA 19381

B151-

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation*	As Received Method Detection Limit	Units	Dilution Factor
06035	Lead	7439-92-1	< 0.0010	0.0010	0.000047	mg/l	1
07879	EDB in Wastewater						
01087	Ethylene dibromide	106-93-4	< 0.029	0.029	0.0095	ug/l	1
07805	PAHs in Water by GC/MS						
03947	Naphthalene	91-20-3	< 5.	5.	1.	ug/l	1
03956	Fluorene	86-73-7	< 5.	5.	1.	ug/l	1
03963	Phenanthrene	85-01-8	< 5.	5.	1.	ug/l	1
03967	Pyrene	129-00-0	< 5.	5.	1.	ug/l	1
03971	Chrysene	218-01-9	< 5.	5.	1.	ug/l	1
02302	UST-Waters by 8260B						
02010	Methyl Tertiary Butyl Ether	1634-04-4	< 5.	5.	0.5	ug/l	1
05401	Benzene	71-43-2	< 5.	5.	0.5	ug/l	1
05402	1,2-Dichloroethane	107-06-2	< 5.	5.	1.	ug/l	1
05407	Toluene	108-88-3	< 5.	5.	0.7	ug/l	1
05415	Ethylbenzene	100-41-4	< 5.	5.	0.8	ug/l	1
05420	Isopropylbenzene	98-82-8	< 5.	5.	1.	ug/l	1
06310	Xylene (Total)	1330-20-7	< 5.	5.	0.8	ug/l	1

Commonwealth of Pennsylvania Lab Certification No. 36-037  
This sample was filtered in the lab for dissolved metals.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

## Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
06035	Lead	SW-846 6020	1	06/19/2006 21:30	David K Beck	1
07879	EDB in Wastewater	SW-846 8011	1	06/16/2006 16:36	James H Place	1
07805	PAHs in Water by GC/MS	SW-846 8270C	1	06/15/2006 09:53	Mark A Clark	1
02302	UST-Waters by 8260B	SW-846 8260B	1	06/15/2006 03:09	Kelly E Brickley	1

\*=This limit was used in the evaluation of the final result

**Lancaster Laboratories Sample No. WW 4790625****B151-060806 Grab Water Sample****SUN: Philadelphia Refinery AOI-6**

Collected: 06/08/2006 13:20 by MBS

Account Number: 10132

Submitted: 06/09/2006 18:00

SUN: Aquaterra Tech.

Reported: 06/29/2006 at 14:21

PO Box 744

Discard: 07/30/2006

West Chester PA 19381

B151-

01163	GC/MS VOA Water Prep	SW-846 5030B	1	06/15/2006 03:09	Kelly E Brickley	1
06050	ICP/MS SW-846 Water	SW-846 3010A modified	1	06/18/2006 18:33	James L Mertz	1
07786	EDB Extraction	SW-846 8011	1	06/13/2006 13:00	Deborah M Zimmerman	1
07807	BNA Water Extraction	SW-846 3510C	1	06/14/2006 08:00	Joseph S Feister	1



Lancaster Laboratories Sample No. WW 4790626

B154-060806 Grab Water Sample  
SUN: Philadelphia Refinery AOI-6

Collected: 06/08/2006 13:35 by MBS

Account Number: 10132

Submitted: 06/09/2006 18:00  
Reported: 06/29/2006 at 14:21  
Discard: 07/30/2006

SUN: Aquaterra Tech.  
PO Box 744  
West Chester PA 19381

-B154

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation*	As Received Method Detection Limit	Units	Dilution Factor
06035	Lead	7439-92-1	< 0.0010	0.0010	0.000047	mg/l	1
07879	EDB in Wastewater						
01087	Ethylene dibromide	106-93-4	< 0.029	0.029	0.0097	ug/l	1
07805	PAHs in Water by GC/MS						
03947	Naphthalene	91-20-3	76.	5.	1.	ug/l	1
03956	Fluorene	86-73-7	21.	5.	1.	ug/l	1
03963	Phenanthrene	85-01-8	18.	5.	1.	ug/l	1
03967	Pyrene	129-00-0	< 5.	5.	1.	ug/l	1
03971	Chrysene	218-01-9	< 5.	5.	1.	ug/l	1
02302	UST-Waters by 8260B						
02010	Methyl Tertiary Butyl Ether	1634-04-4	< 1,000.	1,000.	100.	ug/l	200
05401	Benzene	71-43-2	450,000.	10,000.	1,000.	ug/l	2000
05402	1,2-Dichloroethane	107-06-2	< 1,000.	1,000.	200.	ug/l	200
05407	Toluene	108-88-3	6,200.	1,000.	140.	ug/l	200
05415	Ethylbenzene	100-41-4	< 1,000.	1,000.	160.	ug/l	200
05420	Isopropylbenzene	98-82-8	< 1,000.	1,000.	200.	ug/l	200
06310	Xylene (Total)	1330-20-7	< 1,000.	1,000.	160.	ug/l	200

Commonwealth of Pennsylvania Lab Certification No. 36-037  
This sample was filtered in the lab for dissolved metals.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

## Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
06035	Lead	SW-846 6020	1	06/19/2006 21:33	David K Beck	1
07879	EDB in Wastewater	SW-846 8011	1	06/16/2006 17:05	James H Place	1
07805	PAHs in Water by GC/MS	SW-846 8270C	1	06/15/2006 10:14	Mark A Clark	1
02302	UST-Waters by 8260B	SW-846 8260B	1	06/15/2006 03:32	Kelly E Brickley	200

\*=This limit was used in the evaluation of the final result



# Analysis Report

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Lancaster Laboratories Sample No. WW 4790626

B154-060806 Grab Water Sample

SUN: Philadelphia Refinery AOI-6

Collected: 06/08/2006 13:35 by MBS

Account Number: 10132

Submitted: 06/09/2006 18:00

SUN: Aquaterra Tech.

Reported: 06/29/2006 at 14:21

PO Box 744

Discard: 07/30/2006

West Chester PA 19381

-B154

02302	UST-Waters by 8260B	SW-846 8260B	1	06/15/2006 03:55	Kelly E Brickley	2000
01163	GC/MS VOA Water Prep	SW-846 5030B	1	06/15/2006 03:32	Kelly E Brickley	200
01163	GC/MS VOA Water Prep	SW-846 5030B	2	06/15/2006 03:55	Kelly E Brickley	2000
06050	ICP/MS SW-846 Water	SW-846 3010A modified	1	06/18/2006 18:33	James L Mertz	1
07786	EDB Extraction	SW-846 8011	1	06/13/2006 13:00	Deborah M Zimmerman	1
07807	BNA Water Extraction	SW-846 3510C	1	06/14/2006 08:00	Joseph S Feister	1

\*=This limit was used in the evaluation of the final result

Lancaster Laboratories Sample No. WW 4790627

B156-060806 Grab Water Sample  
SUN: Philadelphia Refinery AOI-6

Collected: 06/08/2006 13:45 by MBS

Account Number: 10132

Submitted: 06/09/2006 18:00  
Reported: 06/29/2006 at 14:21  
Discard: 07/30/2006

SUN: Aquaterra Tech.  
PO Box 744  
West Chester PA 19381

B156-

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation*	As Received Method Detection Limit	Units	Dilution Factor
06035	Lead	7439-92-1	< 0.0010	0.0010	0.000047	mg/l	1
07879	EDB in Wastewater						
01087	Ethylene dibromide	106-93-4	< 0.029	0.029	0.0096	ug/l	1
07805	PAHs in Water by GC/MS						
03947	Naphthalene	91-20-3	< 5.	5.	1.	ug/l	1
03956	Fluorene	86-73-7	16.	5.	1.	ug/l	1
03963	Phenanthrene	85-01-8	17.	5.	1.	ug/l	1
03967	Pyrene	129-00-0	< 5.	5.	1.	ug/l	1
03971	Chrysene	218-01-9	< 5.	5.	1.	ug/l	1
02302	UST-Waters by 8260B						
02010	Methyl Tertiary Butyl Ether	1634-04-4	< 5.	5.	0.5	ug/l	1
05401	Benzene	71-43-2	390.	50.	5.	ug/l	10
05402	1,2-Dichloroethane	107-06-2	< 5.	5.	1.	ug/l	1
05407	Toluene	108-88-3	22.	5.	0.7	ug/l	1
05415	Ethylbenzene	100-41-4	6.	5.	0.8	ug/l	1
05420	Isopropylbenzene	98-82-8	84.	5.	1.	ug/l	1
06310	Xylene (Total)	1330-20-7	39.	5.	0.8	ug/l	1

Commonwealth of Pennsylvania Lab Certification No. 36-037  
This sample was filtered in the lab for dissolved metals.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

## Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
06035	Lead	SW-846 6020	1	06/19/2006 21:37	David K Beck	1
07879	EDB in Wastewater	SW-846 8011	1	06/16/2006 17:35	James H Place	1
07805	PAHs in Water by GC/MS	SW-846 8270C	1	06/15/2006 10:36	Mark A Clark	1
02302	UST-Waters by 8260B	SW-846 8260B	1	06/17/2006 03:18	Nicholas R Rossi	1

\*=This limit was used in the evaluation of the final result



# Analysis Report

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Lancaster Laboratories Sample No. WW 4790627

B156-060806 Grab Water Sample

SUN: Philadelphia Refinery AOI-6

Collected: 06/08/2006 13:45 by MBS

Account Number: 10132

Submitted: 06/09/2006 18:00

SUN: Aquaterra Tech.

Reported: 06/29/2006 at 14:21

PO Box 744

Discard: 07/30/2006

West Chester PA 19381

B156-

02302	UST-Waters by 8260B	SW-846 8260B	1	06/17/2006 03:42	Nicholas R Rossi	10
01163	GC/MS VOA Water Prep	SW-846 5030B	1	06/17/2006 03:18	Nicholas R Rossi	1
01163	GC/MS VOA Water Prep	SW-846 5030B	2	06/17/2006 03:42	Nicholas R Rossi	10
06050	ICP/MS SW-846 Water	SW-846 3010A modified	1	06/18/2006 18:33	James L Mertz	1
07786	EDB Extraction	SW-846 8011	1	06/13/2006 13:00	Deborah M Zimmerman	1
07807	BNA Water Extraction	SW-846 3510C	1	06/14/2006 08:00	Joseph S Feister	1

\*=This limit was used in the evaluation of the final result



# Analysis Report

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Lancaster Laboratories Sample No. WW 4790628

B155-060806 Grab Water Sample  
SUN: Philadelphia Refinery AOI-6

Collected: 06/08/2006 14:00 by MBS

Account Number: 10132

Submitted: 06/09/2006 18:00  
Reported: 06/29/2006 at 14:21  
Discard: 07/30/2006

SUN: Aquaterra Tech.  
PO Box 744  
West Chester PA 19381

B155-

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation*	As Received Method Detection Limit	Units	Dilution Factor
06035	Lead	7439-92-1	< 0.0010	0.0010	0.000047	mg/l	1
07879	EDB in Wastewater						
01087	Ethylene dibromide	106-93-4	< 0.029	0.029	0.0096	ug/l	1
07805	PAHs in Water by GC/MS						
03947	Naphthalene	91-20-3	29.	5.	1.	ug/l	1
03956	Fluorene	86-73-7	10.	5.	1.	ug/l	1
03963	Phenanthrene	85-01-8	14.	5.	1.	ug/l	1
03967	Pyrene	129-00-0	< 5.	5.	1.	ug/l	1
03971	Chrysene	218-01-9	< 5.	5.	1.	ug/l	1
02302	UST-Waters by 8260B						
02010	Methyl Tertiary Butyl Ether	1634-04-4	< 1,000.	1,000.	100.	ug/l	200
05401	Benzene	71-43-2	280,000.	10,000.	1,000.	ug/l	2000
05402	1,2-Dichloroethane	107-06-2	< 1,000.	1,000.	200.	ug/l	200
05407	Toluene	108-88-3	< 1,000.	1,000.	140.	ug/l	200
05415	Ethylbenzene	100-41-4	< 1,000.	1,000.	160.	ug/l	200
05420	Isopropylbenzene	98-82-8	< 1,000.	1,000.	200.	ug/l	200
06310	Xylene (Total)	1330-20-7	< 1,000.	1,000.	160.	ug/l	200

Commonwealth of Pennsylvania Lab Certification No. 36-037  
This sample was filtered in the lab for dissolved metals.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

## Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
06035	Lead	SW-846 6020	1	06/19/2006 21:41	David K Beck	1
07879	EDB in Wastewater	SW-846 8011	1	06/16/2006 18:06	James H Place	1
07805	PAHs in Water by GC/MS	SW-846 8270C	1	06/15/2006 15:04	Linda M Hartenstine	1
02302	UST-Waters by 8260B	SW-846 8260B	1	06/17/2006 04:04	Nicholas R Rossi	200

\*=This limit was used in the evaluation of the final result



# Analysis Report

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Lancaster Laboratories Sample No. WW 4790628

B155-060806 Grab Water Sample

SUN: Philadelphia Refinery AOI-6

Collected: 06/08/2006 14:00 by MBS

Account Number: 10132

Submitted: 06/09/2006 18:00

SUN: Aquaterra Tech.

Reported: 06/29/2006 at 14:21

PO Box 744

Discard: 07/30/2006

West Chester PA 19381

B155-

02302	UST-Waters by 8260B	SW-846 8260B	1	06/17/2006 04:27	Nicholas R Rossi	2000
01163	GC/MS VOA Water Prep	SW-846 5030B	1	06/17/2006 04:04	Nicholas R Rossi	200
01163	GC/MS VOA Water Prep	SW-846 5030B	2	06/17/2006 04:27	Nicholas R Rossi	2000
06050	ICP/MS SW-846 Water	SW-846 3010A modified	1	06/18/2006 18:33	James L Mertz	1
07786	EDB Extraction	SW-846 8011	1	06/13/2006 13:00	Deborah M Zimmerman	1
07807	BNA Water Extraction	SW-846 3510C	1	06/14/2006 08:00	Joseph S Feister	1

\*=This limit was used in the evaluation of the final result

Lancaster Laboratories Sample No. WW 4790629

B149-060806 Grab Water Sample  
SUN: Philadelphia Refinery AOI-6

Collected: 06/08/2006 14:10 by MBS

Account Number: 10132

Submitted: 06/09/2006 18:00  
Reported: 06/29/2006 at 14:21  
Discard: 07/30/2006

SUN: Aquaterra Tech.  
PO Box 744  
West Chester PA 19381

B149-

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation*	As Received Method Detection Limit	Units	Dilution Factor
06035	Lead	7439-92-1	< 0.0010	0.0010	0.000047	mg/l	1
07879	EDB in Wastewater						
01087	Ethylene dibromide	106-93-4	< 0.029	0.029	0.0096	ug/l	1
07805	PAHs in Water by GC/MS						
03947	Naphthalene	91-20-3	7.	5.	1.	ug/l	1
03956	Fluorene	86-73-7	< 5.	5.	1.	ug/l	1
03963	Phenanthrene	85-01-8	< 5.	5.	1.	ug/l	1
03967	Pyrene	129-00-0	< 5.	5.	1.	ug/l	1
03971	Chrysene	218-01-9	< 5.	5.	1.	ug/l	1
02302	UST-Waters by 8260B						
02010	Methyl Tertiary Butyl Ether	1634-04-4	< 250.	250.	25.	ug/l	50
05401	Benzene	71-43-2	79,000.	2,500.	250.	ug/l	500
05402	1,2-Dichloroethane	107-06-2	< 250.	250.	50.	ug/l	50
05407	Toluene	108-88-3	2,200.	250.	35.	ug/l	50
05415	Ethylbenzene	100-41-4	< 250.	250.	40.	ug/l	50
05420	Isopropylbenzene	98-82-8	810.	250.	50.	ug/l	50
06310	Xylene (Total)	1330-20-7	< 250.	250.	40.	ug/l	50

Commonwealth of Pennsylvania Lab Certification No. 36-037  
This sample was filtered in the lab for dissolved metals.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

## Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
06035	Lead	SW-846 6020	1	06/19/2006 21:51	David K Beck	1
07879	EDB in Wastewater	SW-846 8011	1	06/16/2006 18:36	James H Place	1
07805	PAHs in Water by GC/MS	SW-846 8270C	1	06/15/2006 15:26	Linda M Hartenstine	1
02302	UST-Waters by 8260B	SW-846 8260B	1	06/17/2006 04:50	Nicholas R Rossi	50

\*=This limit was used in the evaluation of the final result



# Analysis Report

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Lancaster Laboratories Sample No. WW 4790629

B149-060806 Grab Water Sample

SUN: Philadelphia Refinery AOI-6

Collected: 06/08/2006 14:10 by MBS

Account Number: 10132

Submitted: 06/09/2006 18:00

SUN: Aquaterra Tech.

Reported: 06/29/2006 at 14:21

PO Box 744

Discard: 07/30/2006

West Chester PA 19381

B149-

02302	UST-Waters by 8260B	SW-846 8260B	1	06/17/2006 05:13	Nicholas R Rossi	500
01163	GC/MS VOA Water Prep	SW-846 5030B	1	06/17/2006 04:50	Nicholas R Rossi	50
01163	GC/MS VOA Water Prep	SW-846 5030B	2	06/17/2006 05:13	Nicholas R Rossi	500
06050	ICP/MS SW-846 Water	SW-846 3010A modified	1	06/18/2006 18:33	James L Mertz	1
07786	EDB Extraction	SW-846 8011	1	06/13/2006 13:00	Deborah M Zimmerman	1
07807	BNA Water Extraction	SW-846 3510C	1	06/14/2006 08:00	Joseph S Feister	1

\*=This limit was used in the evaluation of the final result



Lancaster Laboratories Sample No. WW 4790630

B153-060906 Grab Water Sample  
SUN: Philadelphia Refinery AOI-6

Collected: 06/09/2006 10:40 by MBS

Account Number: 10132

Submitted: 06/09/2006 18:00  
Reported: 06/29/2006 at 14:21  
Discard: 07/30/2006

SUN: Aquaterra Tech.  
PO Box 744  
West Chester PA 19381

B153-

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation*	As Received Method Detection Limit	Units	Dilution Factor
06035	Lead	7439-92-1	< 0.0010	0.0010	0.000047	mg/l	1
07879	EDB in Wastewater						
01087	Ethylene dibromide	106-93-4	< 0.029	0.029	0.0096	ug/l	1
07805	PAHs in Water by GC/MS						
03947	Naphthalene	91-20-3	< 5.	5.	1.	ug/l	1
03956	Fluorene	86-73-7	< 5.	5.	1.	ug/l	1
03963	Phenanthrene	85-01-8	< 5.	5.	1.	ug/l	1
03967	Pyrene	129-00-0	< 5.	5.	1.	ug/l	1
03971	Chrysene	218-01-9	< 5.	5.	1.	ug/l	1
02302	UST-Waters by 8260B						
02010	Methyl Tertiary Butyl Ether	1634-04-4	< 5.	5.	0.5	ug/l	1
05401	Benzene	71-43-2	< 5.	5.	0.5	ug/l	1
05402	1,2-Dichloroethane	107-06-2	< 5.	5.	1.	ug/l	1
05407	Toluene	108-88-3	< 5.	5.	0.7	ug/l	1
05415	Ethylbenzene	100-41-4	< 5.	5.	0.8	ug/l	1
05420	Isopropylbenzene	98-82-8	9.	5.	1.	ug/l	1
06310	Xylene (Total)	1330-20-7	< 5.	5.	0.8	ug/l	1

Commonwealth of Pennsylvania Lab Certification No. 36-037  
This sample was filtered in the lab for dissolved metals.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

## Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
06035	Lead	SW-846 6020	1	06/19/2006 21:55	David K Beck	1
07879	EDB in Wastewater	SW-846 8011	1	06/22/2006 05:56	James H Place	1
07805	PAHs in Water by GC/MS	SW-846 8270C	1	06/15/2006 15:47	Linda M Hartenstine	1
02302	UST-Waters by 8260B	SW-846 8260B	1	06/17/2006 05:36	Nicholas R Rossi	1

\*=This limit was used in the evaluation of the final result

**Lancaster Laboratories Sample No. WW 4790630****B153-060906 Grab Water Sample****SUN: Philadelphia Refinery AOI-6**

Collected: 06/09/2006 10:40 by MBS

Account Number: 10132

Submitted: 06/09/2006 18:00

SUN: Aquaterra Tech.

Reported: 06/29/2006 at 14:21

PO Box 744

Discard: 07/30/2006

West Chester PA 19381

B153-

01163	GC/MS VOA Water Prep	SW-846 5030B	1	06/17/2006 05:36	Nicholas R Rossi	1
06050	ICP/MS SW-846 Water	SW-846 3010A modified	1	06/18/2006 18:33	James L Mertz	1
07786	EDB Extraction	SW-846 8011	1	06/13/2006 13:00	Deborah M Zimmerman	1
07807	BNA Water Extraction	SW-846 3510C	1	06/14/2006 08:00	Joseph S Feister	1

Lancaster Laboratories Sample No. WW 4790631

B152-060906 Grab Water Sample  
SUN: Philadelphia Refinery AOI-6

Collected: 06/09/2006 10:55 by MBS

Account Number: 10132

Submitted: 06/09/2006 18:00  
Reported: 06/29/2006 at 14:21  
Discard: 07/30/2006

SUN: Aquaterra Tech.  
PO Box 744  
West Chester PA 19381

B152-

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation*	As Received Method Detection Limit	Units	Dilution Factor
06035	Lead	7439-92-1	< 0.0010	0.0010	0.000047	mg/l	1
07879	EDB in Wastewater						
01087	Ethylene dibromide	106-93-4	< 0.029	0.029	0.0096	ug/l	1
07805	PAHs in Water by GC/MS						
03947	Naphthalene	91-20-3	< 5.	5.	1.	ug/l	1
03956	Fluorene	86-73-7	7.	5.	1.	ug/l	1
03963	Phenanthrene	85-01-8	< 5.	5.	1.	ug/l	1
03967	Pyrene	129-00-0	< 5.	5.	1.	ug/l	1
03971	Chrysene	218-01-9	< 5.	5.	1.	ug/l	1
02302	UST-Waters by 8260B						
02010	Methyl Tertiary Butyl Ether	1634-04-4	< 5.	5.	0.5	ug/l	1
05401	Benzene	71-43-2	78.	5.	0.5	ug/l	1
05402	1,2-Dichloroethane	107-06-2	< 5.	5.	1.	ug/l	1
05407	Toluene	108-88-3	6.	5.	0.7	ug/l	1
05415	Ethylbenzene	100-41-4	< 5.	5.	0.8	ug/l	1
05420	Isopropylbenzene	98-82-8	94.	5.	1.	ug/l	1
06310	Xylene (Total)	1330-20-7	5.	5.	0.8	ug/l	1

Commonwealth of Pennsylvania Lab Certification No. 36-037  
This sample was filtered in the lab for dissolved metals.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

## Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
06035	Lead	SW-846 6020	1	06/19/2006 21:59	David K Beck	1
07879	EDB in Wastewater	SW-846 8011	1	06/22/2006 06:56	James H Place	1
07805	PAHs in Water by GC/MS	SW-846 8270C	1	06/15/2006 16:09	Linda M Hartenstine	1
02302	UST-Waters by 8260B	SW-846 8260B	1	06/14/2006 11:33	Seth J Good	1

\*=This limit was used in the evaluation of the final result

**Lancaster Laboratories Sample No. WW 4790631****B152-060906 Grab Water Sample****SUN: Philadelphia Refinery AOI-6**

Collected: 06/09/2006 10:55 by MBS

Account Number: 10132

Submitted: 06/09/2006 18:00

SUN: Aquaterra Tech.

Reported: 06/29/2006 at 14:21

PO Box 744

Discard: 07/30/2006

West Chester PA 19381

B152-

01163	GC/MS VOA Water Prep	SW-846 5030B	1	06/14/2006 11:33	Seth J Good	1
06050	ICP/MS SW-846 Water	SW-846 3010A modified	1	06/18/2006 18:33	James L Mertz	1
07786	EDB Extraction	SW-846 8011	1	06/13/2006 13:00	Deborah M Zimmerman	1
07807	BNA Water Extraction	SW-846 3510C	1	06/14/2006 08:00	Joseph S Feister	1

Lancaster Laboratories Sample No. WW 4790632

B94-060906 Grab Water Sample  
SUN: Philadelphia Refinery AOI-6

Collected: 06/09/2006 11:10 by MBS

Account Number: 10132

Submitted: 06/09/2006 18:00  
Reported: 06/29/2006 at 14:21  
Discard: 07/30/2006

SUN: Aquaterra Tech.  
PO Box 744  
West Chester PA 19381

B94--

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation*	As Received Method Detection Limit	Units	Dilution Factor
06035	Lead	7439-92-1	< 0.0010	0.0010	0.000047	mg/l	1
07879	EDB in Wastewater						
01087	Ethylene dibromide	106-93-4	< 0.029	0.029	0.0096	ug/l	1
07805	PAHs in Water by GC/MS						
03947	Naphthalene	91-20-3	< 5.	5.	1.	ug/l	1
03956	Fluorene	86-73-7	< 5.	5.	1.	ug/l	1
03963	Phenanthrene	85-01-8	< 5.	5.	1.	ug/l	1
03967	Pyrene	129-00-0	< 5.	5.	1.	ug/l	1
03971	Chrysene	218-01-9	< 5.	5.	1.	ug/l	1
02302	UST-Waters by 8260B						
02010	Methyl Tertiary Butyl Ether	1634-04-4	20.	5.	0.5	ug/l	1
05401	Benzene	71-43-2	< 5.	5.	0.5	ug/l	1
05402	1,2-Dichloroethane	107-06-2	< 5.	5.	1.	ug/l	1
05407	Toluene	108-88-3	< 5.	5.	0.7	ug/l	1
05415	Ethylbenzene	100-41-4	< 5.	5.	0.8	ug/l	1
05420	Isopropylbenzene	98-82-8	< 5.	5.	1.	ug/l	1
06310	Xylene (Total)	1330-20-7	< 5.	5.	0.8	ug/l	1

Commonwealth of Pennsylvania Lab Certification No. 36-037  
This sample was filtered in the lab for dissolved metals.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

## Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
06035	Lead	SW-846 6020	1	06/19/2006 22:02	David K Beck	1
07879	EDB in Wastewater	SW-846 8011	1	06/22/2006 07:56	James H Place	1
07805	PAHs in Water by GC/MS	SW-846 8270C	1	06/15/2006 16:31	Linda M Hartenstine	1
02302	UST-Waters by 8260B	SW-846 8260B	1	06/14/2006 11:56	Seth J Good	1

\*=This limit was used in the evaluation of the final result



# Analysis Report

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Lancaster Laboratories Sample No. WW 4790632

B94-060906 Grab Water Sample

SUN: Philadelphia Refinery AOI-6

Collected: 06/09/2006 11:10 by MBS

Account Number: 10132

Submitted: 06/09/2006 18:00

SUN: Aquaterra Tech.

Reported: 06/29/2006 at 14:21

PO Box 744

Discard: 07/30/2006

West Chester PA 19381

B94--

01163	GC/MS VOA Water Prep	SW-846 5030B	1	06/14/2006 11:56	Seth J Good	1
06050	ICP/MS SW-846 Water	SW-846 3010A modified	1	06/18/2006 18:33	James L Mertz	1
07786	EDB Extraction	SW-846 8011	1	06/13/2006 13:00	Deborah M Zimmerman	1
07807	BNA Water Extraction	SW-846 3510C	1	06/14/2006 08:00	Joseph S Feister	1

\*=This limit was used in the evaluation of the final result

Lancaster Laboratories Sample No. WW 4790633

WPM8-060906 Grab Water Sample  
SUN: Philadelphia Refinery AOI-6

Collected: 06/09/2006 08:30 by MBS

Account Number: 10132

Submitted: 06/09/2006 18:00  
Reported: 06/29/2006 at 14:21  
Discard: 07/30/2006

SUN: Aquaterra Tech.  
PO Box 744  
West Chester PA 19381

WPM8-

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation*	As Received Method Detection Limit	Units	Dilution Factor
06035	Lead	7439-92-1	< 0.0010	0.0010	0.000047	mg/l	1
07879	EDB in Wastewater						
01087	Ethylene dibromide	106-93-4	< 0.029	0.029	0.0097	ug/l	1
07805	PAHs in Water by GC/MS						
03947	Naphthalene	91-20-3	< 5.	5.	1.	ug/l	1
03956	Fluorene	86-73-7	< 5.	5.	1.	ug/l	1
03963	Phenanthrene	85-01-8	< 5.	5.	1.	ug/l	1
03967	Pyrene	129-00-0	< 5.	5.	1.	ug/l	1
03971	Chrysene	218-01-9	< 5.	5.	1.	ug/l	1
02302	UST-Waters by 8260B						
02010	Methyl Tertiary Butyl Ether	1634-04-4	23.	5.	0.5	ug/l	1
05401	Benzene	71-43-2	< 5.	5.	0.5	ug/l	1
05402	1,2-Dichloroethane	107-06-2	< 5.	5.	1.	ug/l	1
05407	Toluene	108-88-3	< 5.	5.	0.7	ug/l	1
05415	Ethylbenzene	100-41-4	< 5.	5.	0.8	ug/l	1
05420	Isopropylbenzene	98-82-8	40.	5.	1.	ug/l	1
06310	Xylene (Total)	1330-20-7	< 5.	5.	0.8	ug/l	1

Commonwealth of Pennsylvania Lab Certification No. 36-037  
This sample was filtered in the lab for dissolved metals.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

## Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
06035	Lead	SW-846 6020	1	06/19/2006 22:06	David K Beck	1
07879	EDB in Wastewater	SW-846 8011	1	06/22/2006 08:26	James H Place	1
07805	PAHs in Water by GC/MS	SW-846 8270C	1	06/15/2006 16:52	Linda M Hartenstine	1
02302	UST-Waters by 8260B	SW-846 8260B	1	06/14/2006 12:20	Seth J Good	1

\*=This limit was used in the evaluation of the final result

**Lancaster Laboratories Sample No. WW 4790633****WPM8-060906 Grab Water Sample****SUN: Philadelphia Refinery AOI-6**

Collected: 06/09/2006 08:30 by MBS

Account Number: 10132

Submitted: 06/09/2006 18:00

SUN: Aquaterra Tech.

Reported: 06/29/2006 at 14:21

PO Box 744

Discard: 07/30/2006

West Chester PA 19381

**WPM8 -**

01163	GC/MS VOA Water Prep	SW-846 5030B	1	06/14/2006 12:20	Seth J Good	1
06050	ICP/MS SW-846 Water	SW-846 3010A modified	1	06/18/2006 18:33	James L Mertz	1
07786	EDB Extraction	SW-846 8011	1	06/13/2006 13:00	Deborah M Zimmerman	1
07807	BNA Water Extraction	SW-846 3510C	1	06/14/2006 08:00	Joseph S Feister	1



Lancaster Laboratories Sample No. WW 4790634

WPM11-060906 Grab Water Sample  
SUN: Philadelphia Refinery AOI-6

Collected: 06/09/2006 09:10 by MBS

Account Number: 10132

Submitted: 06/09/2006 18:00  
Reported: 06/29/2006 at 14:21  
Discard: 07/30/2006

SUN: Aquaterra Tech.  
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West Chester PA 19381

WPM11

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation*	As Received Method Detection Limit	Units	Dilution Factor
06035	Lead	7439-92-1	< 0.0010	0.0010	0.000047	mg/l	1
07879	EDB in Wastewater						
01087	Ethylene dibromide	106-93-4	< 0.029	0.029	0.0096	ug/l	1
07805	PAHs in Water by GC/MS						
03947	Naphthalene	91-20-3	< 5.	5.	1.	ug/l	1
03956	Fluorene	86-73-7	6.	5.	1.	ug/l	1
03963	Phenanthrene	85-01-8	14.	5.	1.	ug/l	1
03967	Pyrene	129-00-0	50.	5.	1.	ug/l	1
03971	Chrysene	218-01-9	28.	5.	1.	ug/l	1
02302	UST-Waters by 8260B						
02010	Methyl Tertiary Butyl Ether	1634-04-4	< 5.	5.	0.5	ug/l	1
05401	Benzene	71-43-2	< 5.	5.	0.5	ug/l	1
05402	1,2-Dichloroethane	107-06-2	< 5.	5.	1.	ug/l	1
05407	Toluene	108-88-3	< 5.	5.	0.7	ug/l	1
05415	Ethylbenzene	100-41-4	< 5.	5.	0.8	ug/l	1
05420	Isopropylbenzene	98-82-8	< 5.	5.	1.	ug/l	1
06310	Xylene (Total)	1330-20-7	< 5.	5.	0.8	ug/l	1

Commonwealth of Pennsylvania Lab Certification No. 36-037  
This sample was filtered in the lab for dissolved metals.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

## Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
06035	Lead	SW-846 6020	1	06/19/2006 22:09	David K Beck	1
07879	EDB in Wastewater	SW-846 8011	1	06/22/2006 09:26	James H Place	1
07805	PAHs in Water by GC/MS	SW-846 8270C	1	06/15/2006 17:14	Linda M Hartenstine	1
02302	UST-Waters by 8260B	SW-846 8260B	1	06/14/2006 13:07	Seth J Good	1

\*=This limit was used in the evaluation of the final result

**Lancaster Laboratories Sample No. WW 4790634****WPM11-060906 Grab Water Sample****SUN: Philadelphia Refinery AOI-6**

Collected: 06/09/2006 09:10 by MBS

Account Number: 10132

Submitted: 06/09/2006 18:00

SUN: Aquaterra Tech.

Reported: 06/29/2006 at 14:21

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Discard: 07/30/2006

West Chester PA 19381

**WPM11**

01163	GC/MS VOA Water Prep	SW-846 5030B	1	06/14/2006 13:07	Seth J Good	1
06050	ICP/MS SW-846 Water	SW-846 3010A modified	1	06/18/2006 18:33	James L Mertz	1
07786	EDB Extraction	SW-846 8011	1	06/13/2006 13:00	Deborah M Zimmerman	1
07807	BNA Water Extraction	SW-846 3510C	1	06/14/2006 08:00	Joseph S Feister	1

Lancaster Laboratories Sample No. WW 4790635

B163-060906 Grab Water Sample  
SUN: Philadelphia Refinery AOI-6

Collected: 06/09/2006 10:20 by MBS

Account Number: 10132

Submitted: 06/09/2006 18:00  
Reported: 06/29/2006 at 14:21  
Discard: 07/30/2006

SUN: Aquaterra Tech.  
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West Chester PA 19381

B163-

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation*	As Received Method Detection Limit	Units	Dilution Factor
06035	Lead	7439-92-1	< 0.0010	0.0010	0.000047	mg/l	1
07879	EDB in Wastewater						
01087	Ethylene dibromide	106-93-4	< 0.029	0.029	0.0096	ug/l	1
07805	PAHs in Water by GC/MS						
03947	Naphthalene	91-20-3	< 5.	5.	1.	ug/l	1
03956	Fluorene	86-73-7	35.	5.	1.	ug/l	1
03963	Phenanthrene	85-01-8	20.	5.	1.	ug/l	1
03967	Pyrene	129-00-0	< 5.	5.	1.	ug/l	1
03971	Chrysene	218-01-9	< 5.	5.	1.	ug/l	1
02302	UST-Waters by 8260B						
02010	Methyl Tertiary Butyl Ether	1634-04-4	< 25.	25.	3.	ug/l	5
05401	Benzene	71-43-2	4,800.	250.	25.	ug/l	50
05402	1,2-Dichloroethane	107-06-2	< 25.	25.	5.	ug/l	5
05407	Toluene	108-88-3	< 25.	25.	4.	ug/l	5
05415	Ethylbenzene	100-41-4	< 25.	25.	4.	ug/l	5
05420	Isopropylbenzene	98-82-8	< 25.	25.	5.	ug/l	5
06310	Xylene (Total)	1330-20-7	< 25.	25.	4.	ug/l	5

Commonwealth of Pennsylvania Lab Certification No. 36-037  
This sample was filtered in the lab for dissolved metals.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

## Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
06035	Lead	SW-846 6020	1	06/19/2006 22:13	David K Beck	1
07879	EDB in Wastewater	SW-846 8011	1	06/22/2006 09:56	James H Place	1
07805	PAHs in Water by GC/MS	SW-846 8270C	1	06/15/2006 17:36	Linda M Hartenstine	1
02302	UST-Waters by 8260B	SW-846 8260B	1	06/14/2006 13:30	Seth J Good	5

\*=This limit was used in the evaluation of the final result



# Analysis Report

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Lancaster Laboratories Sample No. WW 4790635

B163-060906 Grab Water Sample

SUN: Philadelphia Refinery AOI-6

Collected: 06/09/2006 10:20 by MBS

Account Number: 10132

Submitted: 06/09/2006 18:00

SUN: Aquaterra Tech.

Reported: 06/29/2006 at 14:21

PO Box 744

Discard: 07/30/2006

West Chester PA 19381

B163-

02302	UST-Waters by 8260B	SW-846 8260B	1	06/14/2006 13:54	Seth J Good	50
01163	GC/MS VOA Water Prep	SW-846 5030B	1	06/14/2006 13:30	Seth J Good	5
01163	GC/MS VOA Water Prep	SW-846 5030B	2	06/14/2006 13:54	Seth J Good	50
06050	ICP/MS SW-846 Water	SW-846 3010A modified	1	06/18/2006 18:33	James L Mertz	1
07786	EDB Extraction	SW-846 8011	1	06/13/2006 13:00	Deborah M Zimmerman	1
07807	BNA Water Extraction	SW-846 3510C	1	06/14/2006 08:00	Joseph S Feister	1

\*=This limit was used in the evaluation of the final result

Lancaster Laboratories Sample No. WW 4790636

B145-060906 Grab Water Sample  
SUN: Philadelphia Refinery AOI-6

Collected: 06/09/2006 11:25 by MBS

Account Number: 10132

Submitted: 06/09/2006 18:00  
Reported: 06/29/2006 at 14:21  
Discard: 07/30/2006

SUN: Aquaterra Tech.  
PO Box 744  
West Chester PA 19381

B145-

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation*	As Received Method Detection Limit	Units	Dilution Factor
06035	Lead	7439-92-1	< 0.0010	0.0010	0.000047	mg/l	1
07879	EDB in Wastewater						
01087	Ethylene dibromide	106-93-4	< 0.029	0.029	0.0096	ug/l	1
07805	PAHs in Water by GC/MS						
03947	Naphthalene	91-20-3	11.	5.	1.	ug/l	1
03956	Fluorene	86-73-7	50.	5.	1.	ug/l	1
03963	Phenanthrene	85-01-8	43.	5.	1.	ug/l	1
03967	Pyrene	129-00-0	12.	5.	1.	ug/l	1
03971	Chrysene	218-01-9	< 5.	5.	1.	ug/l	1
02302	UST-Waters by 8260B						
02010	Methyl Tertiary Butyl Ether	1634-04-4	< 5.	5.	0.5	ug/l	1
05401	Benzene	71-43-2	43.	5.	0.5	ug/l	1
05402	1,2-Dichloroethane	107-06-2	< 5.	5.	1.	ug/l	1
05407	Toluene	108-88-3	< 5.	5.	0.7	ug/l	1
05415	Ethylbenzene	100-41-4	< 5.	5.	0.8	ug/l	1
05420	Isopropylbenzene	98-82-8	78.	5.	1.	ug/l	1
06310	Xylene (Total)	1330-20-7	11.	5.	0.8	ug/l	1

Commonwealth of Pennsylvania Lab Certification No. 36-037  
This sample was filtered in the lab for dissolved metals.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

## Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
06035	Lead	SW-846 6020	1	06/22/2006 12:41	Jayne E Curet	1
07879	EDB in Wastewater	SW-846 8011	1	06/22/2006 10:27	James H Place	1
07805	PAHs in Water by GC/MS	SW-846 8270C	1	06/15/2006 17:57	Linda M Hartenstine	1
02302	UST-Waters by 8260B	SW-846 8260B	1	06/14/2006 18:27	Lauren C Marzario	1

\*=This limit was used in the evaluation of the final result



# Analysis Report

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Lancaster Laboratories Sample No. WW 4790636

B145-060906 Grab Water Sample

SUN: Philadelphia Refinery AOI-6

Collected: 06/09/2006 11:25 by MBS

Account Number: 10132

Submitted: 06/09/2006 18:00

SUN: Aquaterra Tech.

Reported: 06/29/2006 at 14:21

PO Box 744

Discard: 07/30/2006

West Chester PA 19381

B145-

01163	GC/MS VOA Water Prep	SW-846 5030B	1	06/14/2006 18:27	Lauren C Marzario	1
06050	ICP/MS SW-846 Water	SW-846 3010A modified	1	06/20/2006 01:15	Helen L Schaeffer	1
07786	EDB Extraction	SW-846 8011	1	06/13/2006 13:00	Deborah M Zimmerman	1
07807	BNA Water Extraction	SW-846 3510C	1	06/14/2006 08:00	Joseph S Feister	1

\*=This limit was used in the evaluation of the final result

Lancaster Laboratories Sample No. WW 4790637

WP16-5-060906 Grab Water Sample  
SUN: Philadelphia Refinery AOI-6

Collected: 06/09/2006 09:20 by MBS

Account Number: 10132

Submitted: 06/09/2006 18:00  
Reported: 06/29/2006 at 14:21  
Discard: 07/30/2006

SUN: Aquaterra Tech.  
PO Box 744  
West Chester PA 19381

WP165

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation*	As Received Method Detection Limit	Units	Dilution Factor
06035	Lead	7439-92-1	< 0.0010	0.0010	0.000047	mg/l	1
07879	EDB in Wastewater						
01087	Ethylene dibromide	106-93-4	< 0.029	0.029	0.0098	ug/l	1
07805	PAHs in Water by GC/MS						
03947	Naphthalene	91-20-3	< 5.	5.	1.	ug/l	1
03956	Fluorene	86-73-7	< 5.	5.	1.	ug/l	1
03963	Phenanthrene	85-01-8	< 5.	5.	1.	ug/l	1
03967	Pyrene	129-00-0	< 5.	5.	1.	ug/l	1
03971	Chrysene	218-01-9	< 5.	5.	1.	ug/l	1
02302	UST-Waters by 8260B						
02010	Methyl Tertiary Butyl Ether	1634-04-4	< 5.	5.	0.5	ug/l	1
05401	Benzene	71-43-2	< 5.	5.	0.5	ug/l	1
05402	1,2-Dichloroethane	107-06-2	< 5.	5.	1.	ug/l	1
05407	Toluene	108-88-3	< 5.	5.	0.7	ug/l	1
05415	Ethylbenzene	100-41-4	< 5.	5.	0.8	ug/l	1
05420	Isopropylbenzene	98-82-8	< 5.	5.	1.	ug/l	1
06310	Xylene (Total)	1330-20-7	< 5.	5.	0.8	ug/l	1

Commonwealth of Pennsylvania Lab Certification No. 36-037  
This sample was filtered in the lab for dissolved metals.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

## Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
06035	Lead	SW-846 6020	1	06/22/2006 12:55	Jayne E Curet	1
07879	EDB in Wastewater	SW-846 8011	1	06/22/2006 10:57	James H Place	1
07805	PAHs in Water by GC/MS	SW-846 8270C	1	06/15/2006 18:19	Linda M Hartenstine	1
02302	UST-Waters by 8260B	SW-846 8260B	1	06/14/2006 19:14	Lauren C Marzario	1

\*=This limit was used in the evaluation of the final result

**Lancaster Laboratories Sample No. WW 4790637**

**WP16-5-060906 Grab Water Sample**  
**SUN: Philadelphia Refinery AOI-6**

Collected: 06/09/2006 09:20 by MBS

Account Number: 10132

Submitted: 06/09/2006 18:00  
Reported: 06/29/2006 at 14:21  
Discard: 07/30/2006

SUN: Aquaterra Tech.  
PO Box 744  
West Chester PA 19381

**WP165**

01163	GC/MS VOA Water Prep	SW-846 5030B	1	06/14/2006 19:14	Lauren C Marzario	1
06050	ICP/MS SW-846 Water	SW-846 3010A modified	1	06/20/2006 01:15	Helen L Schaeffer	1
07786	EDB Extraction	SW-846 8011	1	06/13/2006 13:00	Deborah M Zimmerman	1
07807	BNA Water Extraction	SW-846 3510C	1	06/14/2006 08:00	Joseph S Feister	1



**Lancaster Laboratories Sample No. WW 4790638**
**B157-060906 Grab Water Sample**  
**SUN: Philadelphia Refinery AOI-6**

Collected: 06/09/2006 13:05 by MBS

Account Number: 10132

Submitted: 06/09/2006 18:00  
Reported: 06/29/2006 at 14:21  
Discard: 07/30/2006

SUN: Aquaterra Tech.  
PO Box 744  
West Chester PA 19381

B157-

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation*	As Received Method Detection Limit	Units	Dilution Factor
06035	Lead	7439-92-1	0.0166	0.0010	0.000047	mg/l	1
07879	EDB in Wastewater						
01087	Ethylene dibromide	106-93-4	< 0.029	0.029	0.0095	ug/l	1
07805	PAHs in Water by GC/MS						
03947	Naphthalene	91-20-3	< 5.	5.	1.	ug/l	1
03956	Fluorene	86-73-7	14.	5.	1.	ug/l	1
03963	Phenanthrene	85-01-8	25.	5.	1.	ug/l	1
03967	Pyrene	129-00-0	20.	5.	1.	ug/l	1
03971	Chrysene	218-01-9	6.	5.	1.	ug/l	1
02302	UST-Waters by 8260B						
02010	Methyl Tertiary Butyl Ether	1634-04-4	< 5.	5.	0.5	ug/l	1
05401	Benzene	71-43-2	66.	5.	0.5	ug/l	1
05402	1,2-Dichloroethane	107-06-2	< 5.	5.	1.	ug/l	1
05407	Toluene	108-88-3	40.	5.	0.7	ug/l	1
05415	Ethylbenzene	100-41-4	14.	5.	0.8	ug/l	1
05420	Isopropylbenzene	98-82-8	6.	5.	1.	ug/l	1
06310	Xylene (Total)	1330-20-7	79.	5.	0.8	ug/l	1

Commonwealth of Pennsylvania Lab Certification No. 36-037  
This sample was filtered in the lab for dissolved metals.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

## Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
06035	Lead	SW-846 6020	1	06/22/2006 12:58	Jayne E Curet	1
07879	EDB in Wastewater	SW-846 8011	1	06/22/2006 11:27	James H Place	1
07805	PAHs in Water by GC/MS	SW-846 8270C	1	06/15/2006 18:41	Linda M Hartenstine	1
02302	UST-Waters by 8260B	SW-846 8260B	1	06/14/2006 19:38	Lauren C Marzario	1

\*=This limit was used in the evaluation of the final result

**Lancaster Laboratories Sample No. WW 4790638****B157-060906 Grab Water Sample****SUN: Philadelphia Refinery AOI-6**

Collected: 06/09/2006 13:05 by MBS

Account Number: 10132

Submitted: 06/09/2006 18:00

SUN: Aquaterra Tech.

Reported: 06/29/2006 at 14:21

PO Box 744

Discard: 07/30/2006

West Chester PA 19381

B157-

01163	GC/MS VOA Water Prep	SW-846 5030B	1	06/14/2006 19:38	Lauren C Marzario	1
06050	ICP/MS SW-846 Water	SW-846 3010A modified	1	06/20/2006 01:15	Helen L Schaeffer	1
07786	EDB Extraction	SW-846 8011	1	06/13/2006 13:00	Deborah M Zimmerman	1
07807	BNA Water Extraction	SW-846 3510C	1	06/14/2006 08:00	Joseph S Feister	1

## Quality Control Summary

Client Name: SUN: Aquaterra Tech.  
Reported: 06/29/06 at 02:22 PM

Group Number: 992976

Matrix QC may not be reported if site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

### Laboratory Compliance Quality Control

<u>Analysis Name</u>	<u>Blank Result</u>	<u>Blank LOQ**</u>	<u>Blank MDL</u>	<u>Report Units</u>	<u>LCS %REC</u>	<u>LCSD %REC</u>	<u>LCS/LCSD Limits</u>	<u>RPD</u>	<u>RPD Max</u>
Batch number: 061630032A	Sample number(s): 4790619-4790629								
Ethylene dibromide	< 0.030	0.030	0.010	ug/l	100	96	60-140	4	20
Batch number: 061630033A	Sample number(s): 4790630-4790638								
Ethylene dibromide	< 0.030	0.030	0.010	ug/l	100	100	60-140	0	20
Batch number: 06163WAG026	Sample number(s): 4790619-4790623								
Naphthalene	< 5.	5.	1.	ug/l	85	90	70-104	5	30
Fluorene	< 5.	5.	1.	ug/l	98	97	61-116	1	30
Phenanthrene	< 5.	5.	1.	ug/l	92	91	68-111	1	30
Pyrene	< 5.	5.	1.	ug/l	90	95	68-114	5	30
Chrysene	< 5.	5.	1.	ug/l	88	92	70-111	5	30
Batch number: 06164WAF026	Sample number(s): 4790624-4790638								
Naphthalene	< 5.	5.	1.	ug/l	85	84	70-104	0	30
Fluorene	< 5.	5.	1.	ug/l	88	90	61-116	1	30
Phenanthrene	< 5.	5.	1.	ug/l	92	92	68-111	0	30
Pyrene	< 5.	5.	1.	ug/l	104	105	68-114	1	30
Chrysene	< 5.	5.	1.	ug/l	91	93	70-111	2	30
Batch number: 061696050001A	Sample number(s): 4790619-4790635								
Lead	< 0.0010	0.0010	0.00004	mg/l	99		86-115		
			7						
Batch number: 061716050002A	Sample number(s): 4790636-4790638								
Lead	< 0.0010	0.0010	0.00004	mg/l	102		86-115		
			7						
Batch number: N061651AA	Sample number(s): 4790619-4790626								
Methyl Tertiary Butyl Ether	< 5.	5.	0.5	ug/l	93		73-119		
Benzene	< 5.	5.	0.5	ug/l	92		85-117		
1,2-Dichloroethane	< 5.	5.	1.	ug/l	91		77-132		
Toluene	< 5.	5.	0.7	ug/l	91		85-115		
Ethylbenzene	< 5.	5.	0.8	ug/l	92		82-119		
Isopropylbenzene	< 5.	5.	1.	ug/l	94		80-120		
Xylene (Total)	< 5.	5.	0.8	ug/l	92		83-113		
Batch number: N061671AB	Sample number(s): 4790627-4790630								
Methyl Tertiary Butyl Ether	< 5.	5.	0.5	ug/l	113	115	73-119	1	30
Benzene	< 5.	5.	0.5	ug/l	102	103	85-117	1	30
1,2-Dichloroethane	< 5.	5.	1.	ug/l	126	124	77-132	1	30
Toluene	< 5.	5.	0.7	ug/l	97	98	85-115	2	30
Ethylbenzene	< 5.	5.	0.8	ug/l	99	102	82-119	3	30
Isopropylbenzene	< 5.	5.	1.	ug/l	102	104	80-120	2	30
Xylene (Total)	< 5.	5.	0.8	ug/l	96	99	83-113	3	30
Batch number: T061651AA	Sample number(s): 4790631-4790635								

\*- Outside of specification

\*\* - This limit was used in the evaluation of the final result for the blank

- (1) The result for one or both determinations was less than five times the LOQ.
- (2) The background result was more than four times the spike added.

## Quality Control Summary

Client Name: SUN: Aquaterra Tech.  
Reported: 06/29/06 at 02:22 PM

Group Number: 992976

### Laboratory Compliance Quality Control

<u>Analysis Name</u>	<u>Blank Result</u>	<u>Blank LOQ**</u>	<u>Blank MDL</u>	<u>Report Units</u>	<u>LCS %REC</u>	<u>LCSD %REC</u>	<u>LCS/LCSD Limits</u>	<u>RPD</u>	<u>RPD Max</u>
Methyl Tertiary Butyl Ether	< 5.	5.	0.5	ug/l	97	98	73-119	1	30
Benzene	< 5.	5.	0.5	ug/l	108	104	85-117	4	30
1,2-Dichloroethane	< 5.	5.	1.	ug/l	107	107	77-132	0	30
Toluene	< 5.	5.	0.7	ug/l	97	96	85-115	0	30
Ethylbenzene	< 5.	5.	0.8	ug/l	91	90	82-119	1	30
Isopropylbenzene	< 5.	5.	1.	ug/l	93	94	80-120	1	30
Xylene (Total)	< 5.	5.	0.8	ug/l	95	94	83-113	1	30

Batch number: T061652AA	Sample number(s): 4790636-4790638								
Methyl Tertiary Butyl Ether	< 5.	5.	0.5	ug/l	98	97	73-119	0	30
Benzene	< 5.	5.	0.5	ug/l	103	101	85-117	2	30
1,2-Dichloroethane	< 5.	5.	1.	ug/l	107	104	77-132	3	30
Toluene	< 5.	5.	0.7	ug/l	96	95	85-115	1	30
Ethylbenzene	< 5.	5.	0.8	ug/l	91	91	82-119	0	30
Isopropylbenzene	< 5.	5.	1.	ug/l	96	95	80-120	1	30
Xylene (Total)	< 5.	5.	0.8	ug/l	94	94	83-113	1	30

### Sample Matrix Quality Control

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike  
Background (BKG) = the sample used in conjunction with the duplicate

<u>Analysis Name</u>	<u>MS %REC</u>	<u>MSD %REC</u>	<u>MS/MSD Limits</u>	<u>RPD</u>	<u>MAX</u>	<u>BKG Conc</u>	<u>DUP Conc</u>	<u>DUP RPD</u>	<u>Dup RPD Max</u>
Batch number: 061630032A	Sample number(s): 4790619-4790629 UNSPK: P790442 BKG: P790443								
Ethylene dibromide	87		65-135			< 0.029	< 0.029	0 (1)	30
Batch number: 061630033A	Sample number(s): 4790630-4790638 UNSPK: 4790630 BKG: 4790631								
Ethylene dibromide	70		65-135			< 0.029	< 0.029	0 (1)	30
Batch number: 061696050001A	Sample number(s): 4790619-4790635 UNSPK: 4790619 BKG: 4790619								
Lead	97	99	78-120	2	20	< 0.0010	< 0.0010	200* (1)	20
Batch number: 061716050002A	Sample number(s): 4790636-4790638 UNSPK: 4790636 BKG: 4790636								
Lead	120	100	78-120	18	20	< 0.0010	< 0.0010	10 (1)	20
Batch number: N061651AA	Sample number(s): 4790619-4790626 UNSPK: P791171								
Methyl Tertiary Butyl Ether	95	100	69-127	5	30				
Benzene	98	104	83-128	6	30				
1,2-Dichloroethane	94	99	70-143	6	30				
Toluene	96	102	83-127	6	30				
Ethylbenzene	97	102	82-129	5	30				
Isopropylbenzene	100	106	81-130	6	30				
Xylene (Total)	96	102	82-130	6	30				
Batch number: N061671AB	Sample number(s): 4790627-4790630 UNSPK: P791697								
Methyl Tertiary Butyl Ether	115		69-127						
Benzene	109		83-128						
1,2-Dichloroethane	128		70-143						
Toluene	102		83-127						
Ethylbenzene	106		82-129						
Isopropylbenzene	108		81-130						

\*- Outside of specification

\*\* - This limit was used in the evaluation of the final result for the blank

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- (2) The background result was more than four times the spike added.

## Quality Control Summary

Client Name: SUN: Aquaterra Tech.  
Reported: 06/29/06 at 02:22 PM

Group Number: 992976

### Sample Matrix Quality Control

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike  
Background (BKG) = the sample used in conjunction with the duplicate

	MS	MSD	MS/MSD	RPD	BKG	DUP	DUP	Dup RPD
<u>Analysis Name</u>	<u>%REC</u>	<u>%REC</u>	<u>Limits</u>	<u>RPD</u>	<u>MAX</u>	<u>Conc</u>	<u>Conc</u>	<u>Max</u>
Xylene (Total)	101		82-130					
Batch number: T061651AA Sample number(s): 4790631-4790635 UNSPK: P789401								
Methyl Tertiary Butyl Ether	99		69-127					
Benzene	112		83-128					
1,2-Dichloroethane	113		70-143					
Toluene	105		83-127					
Ethylbenzene	100		82-129					
Isopropylbenzene	106		81-130					
Xylene (Total)	103		82-130					
Batch number: T061652AA Sample number(s): 4790636-4790638 UNSPK: 4790636								
Methyl Tertiary Butyl Ether	98		69-127					
Benzene	100		83-128					
1,2-Dichloroethane	113		70-143					
Toluene	104		83-127					
Ethylbenzene	101		82-129					
Isopropylbenzene	115		81-130					
Xylene (Total)	104		82-130					

### Surrogate Quality Control

Surrogate recoveries which are outside of the QC window are confirmed  
unless attributed to dilution or otherwise noted on the Analysis Report.

Analysis Name: EDB in Wastewater  
Batch number: 061630032A

1,1,2,2-  
Tetrachloroethane

4790619	87
4790620	68
4790621	91
4790622	91
4790623	94
4790624	97
4790625	33*
4790626	104
4790627	70
4790628	64
4790629	73
Blank	113
DUP	136*
LCS	109
LCSD	113
MS	95

Limits: 52-120

\*- Outside of specification

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## Quality Control Summary

Client Name: SUN: Aquaterra Tech.  
Reported: 06/29/06 at 02:22 PM

Group Number: 992976

### Surrogate Quality Control

Analysis Name: EDB in Wastewater  
Batch number: 061630033A  
1,1,2,2-  
Tetrachloroethane

4790630	87
4790631	92
4790632	126*
4790633	92
4790634	102
4790635	168*
4790636	74
4790637	112
4790638	88
Blank	118
DUP	100
LCS	116
LCSD	120
MS	77

Limits: 52-120

Analysis Name: PAHs in Water by GC/MS  
Batch number: 06163WAG026

	Nitrobenzene-d5	2-Fluorobiphenyl	Terphenyl-d14
4790619	85	89	94
4790620	81	83	91
4790621	85	90	95
4790622	88	92	95
4790623	85	85	83
Blank	84	88	95
LCS	83	92	94
LCSD	86	92	101

Limits: 51-123 64-112 52-151

Analysis Name: PAHs in Water by GC/MS  
Batch number: 06164WAF026

	Nitrobenzene-d5	2-Fluorobiphenyl	Terphenyl-d14
4790624	93	89	99
4790625	97	91	100
4790626	99	85	97
4790627	98	92	100
4790628	92	88	99
4790629	95	90	97
4790630	98	93	102
4790631	99	84	103
4790632	96	91	98
4790633	91	77	97
4790634	93	85	94
4790635	95	91	98
4790636	92	88	96
4790637	97	88	96
4790638	91	80	65
Blank	98	89	102
LCS	100	92	110

\*- Outside of specification

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- (2) The background result was more than four times the spike added.

## Quality Control Summary

Client Name: SUN: Aquaterra Tech.  
Reported: 06/29/06 at 02:22 PM

Group Number: 992976

### Surrogate Quality Control

LCSD	100	91	111	
Limits:	51-123	64-112	52-151	
Analysis Name: UST-Waters by 8260B				
Batch number: N061651AA				
	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
4790619	96	98	97	96
4790620	97	97	97	98
4790621	96	97	96	97
4790622	96	98	97	96
4790623	96	98	96	96
4790624	95	97	97	99
4790625	96	97	98	99
4790626	93	94	97	96
Blank	96	98	96	95
LCS	96	99	98	99
MS	97	98	98	100
MSD	97	98	97	99
Limits:	80-116	77-113	80-113	78-113
Analysis Name: UST-Waters by 8260B				
Batch number: N061671AB				
	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
4790627	101	96	100	106
4790628	99	96	99	100
4790629	99	96	98	104
4790630	101	97	101	106
Blank	103	100	99	101
LCS	103	99	99	108
LCSD	102	95	101	109
MS	101	96	99	108
Limits:	80-116	77-113	80-113	78-113
Analysis Name: UST-Waters by 8260B				
Batch number: T061651AA				
	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
4790631	88	80	91	92
4790632	88	82	85	88
4790633	88	81	86	91
4790634	88	81	85	87
4790635	87	84	85	88
Blank	90	81	86	88
LCS	88	84	87	88
LCSD	87	83	86	88
MS	87	85	87	92
Limits:	80-116	77-113	80-113	78-113
Analysis Name: UST-Waters by 8260B				
Batch number: T061652AA				
	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene

\*- Outside of specification

\*\*This limit was used in the evaluation of the final result for the blank

- (1) The result for one or both determinations was less than five times the LOQ.
- (2) The background result was more than four times the spike added.

## Quality Control Summary

Client Name: SUN: Aquaterra Tech.  
Reported: 06/29/06 at 02:22 PM

Group Number: 992976

### Surrogate Quality Control

4790636	87	84	87	90
4790637	87	82	87	89
4790638	87	81	86	90
Blank	89	83	85	88
LCS	89	83	86	90
LCSD	87	84	86	88
MS	88	85	89	92
Limits:	80-116	77-113	80-113	78-113

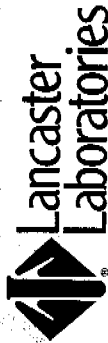
\*- Outside of specification

\*\* - This limit was used in the evaluation of the final result for the blank

- (1) The result for one or both determinations was less than five times the LOQ.
- (2) The background result was more than four times the spike added.



# Analysis Request/ Environmental Services Chain of Custody



For Lancaster Laboratories use only

Acc't # 10182 Group# 992976 Sample # 4790619-39

COC # 0124056

Please print. Instructions on reverse side correspond with circled numbers.

<b>1</b> Client: <u>Sun-Aguatene / Langan</u> Acct. #: _____ Project Name: <u>Sun-Philadelphia Refinery AET-6</u> PWSID #: _____ Project Manager: <u>B. Spencake / J. Hanna</u> P.O. #: _____ Sampler: <u>M. Brad Spencake</u> Quote #: _____ Name of state where samples were collected: <u>PA</u>		<b>2</b>		<b>3</b>		<b>4</b>		<b>5</b>		<b>6</b>	
<b>7</b>		<b>8</b>		<b>9</b>		<b>10</b>		<b>11</b>		<b>12</b>	
<b>13</b>		<b>14</b>		<b>15</b>		<b>16</b>		<b>17</b>		<b>18</b>	
<b>19</b>		<b>20</b>		<b>21</b>		<b>22</b>		<b>23</b>		<b>24</b>	
<b>25</b>		<b>26</b>		<b>27</b>		<b>28</b>		<b>29</b>		<b>30</b>	
<b>31</b>		<b>32</b>		<b>33</b>		<b>34</b>		<b>35</b>		<b>36</b>	
<b>37</b>		<b>38</b>		<b>39</b>		<b>40</b>		<b>41</b>		<b>42</b>	
<b>43</b>		<b>44</b>		<b>45</b>		<b>46</b>		<b>47</b>		<b>48</b>	
<b>49</b>		<b>50</b>		<b>51</b>		<b>52</b>		<b>53</b>		<b>54</b>	
<b>55</b>		<b>56</b>		<b>57</b>		<b>58</b>		<b>59</b>		<b>60</b>	
<b>61</b>		<b>62</b>		<b>63</b>		<b>64</b>		<b>65</b>		<b>66</b>	
<b>67</b>		<b>68</b>		<b>69</b>		<b>70</b>		<b>71</b>		<b>72</b>	
<b>73</b>		<b>74</b>		<b>75</b>		<b>76</b>		<b>77</b>		<b>78</b>	
<b>79</b>		<b>80</b>		<b>81</b>		<b>82</b>		<b>83</b>		<b>84</b>	
<b>85</b>		<b>86</b>		<b>87</b>		<b>88</b>		<b>89</b>		<b>90</b>	
<b>91</b>		<b>92</b>		<b>93</b>		<b>94</b>		<b>95</b>		<b>96</b>	
<b>97</b>		<b>98</b>		<b>99</b>		<b>100</b>		<b>101</b>		<b>102</b>	
<b>103</b>		<b>104</b>		<b>105</b>		<b>106</b>		<b>107</b>		<b>108</b>	
<b>109</b>		<b>110</b>		<b>111</b>		<b>112</b>		<b>113</b>		<b>114</b>	
<b>115</b>		<b>116</b>		<b>117</b>		<b>118</b>		<b>119</b>		<b>120</b>	
<b>121</b>		<b>122</b>		<b>123</b>		<b>124</b>		<b>125</b>		<b>126</b>	
<b>127</b>		<b>128</b>		<b>129</b>		<b>130</b>		<b>131</b>		<b>132</b>	
<b>133</b>		<b>134</b>		<b>135</b>		<b>136</b>		<b>137</b>		<b>138</b>	
<b>139</b>		<b>140</b>		<b>141</b>		<b>142</b>		<b>143</b>		<b>144</b>	
<b>145</b>		<b>146</b>		<b>147</b>		<b>148</b>		<b>149</b>		<b>150</b>	
<b>151</b>		<b>152</b>		<b>153</b>		<b>154</b>		<b>155</b>		<b>156</b>	
<b>157</b>		<b>158</b>		<b>159</b>		<b>160</b>		<b>161</b>		<b>162</b>	
<b>163</b>		<b>164</b>		<b>165</b>		<b>166</b>		<b>167</b>		<b>168</b>	
<b>169</b>		<b>170</b>		<b>171</b>		<b>172</b>		<b>173</b>		<b>174</b>	
<b>175</b>		<b>176</b>		<b>177</b>		<b>178</b>		<b>179</b>		<b>180</b>	
<b>181</b>		<b>182</b>		<b>183</b>		<b>184</b>		<b>185</b>		<b>186</b>	
<b>187</b>		<b>188</b>		<b>189</b>		<b>190</b>		<b>191</b>		<b>192</b>	
<b>193</b>		<b>194</b>		<b>195</b>		<b>196</b>		<b>197</b>		<b>198</b>	
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<b>595</b>		<b>596</b>		<b>597</b>							

Analysis Request/ Environmental Services Chain of Custody



Acc. # 1013Z Group # 992976 Sample # 4790619-39 COC # 0124052

Please print. Instructions on reverse side correspond with circled numbers.

1 Client: Sun-Aquatics/Lancaster Acct. #: 105-6  
Project Name: Sun-Philadelphia Refinery PWSID #:   
Project Manager: B. Sparacke/J. Henne P.O. #:   
Sampler: M. B. Sparacke Quote #: PA  
Name of state where samples were collected: PA

2				3				4				5				6			
Client: <u>Sun-Aquatics / Landon</u> Acct. #: <u>          </u>				Project Name: <u>Sun-Philadelphia Refinery</u> PWSID #: <u>          </u>				Project Manager: <u>B. Sparake / J. Hanne</u> P.O.#: <u>          </u>				Sampler: <u>M. B. Sparake</u> Quote #: <u>          </u>				Name of state where samples were collected: <u>PA</u>			
B149-060806				06/06 1410				X				X				8260 PAUG, 1,2-dichloroethane			
Trip Blank																8011 EDB			
																6020 Dissolved Pb			
																8270 Fluorescent Pyrene (Pyrene), Naphthalene			
												</							

# Analysis Request/ Environmental Services Chain of Custody



For Lancaster Laboratories use only  
 Acct. # 10132 Group# 992976 Sample # 4790619-39 **COC #** 0124047

Please print. Instructions on reverse side correspond with circled numbers.

<b>1</b> Client: <u>Sun-Aquatic/Lancaster</u> Acct. #: _____ Project Name/ID: <u>Sun-Philadelphia Refinery AOF-G</u> PWSID #: _____ Project Manager: <u>B. Spencake/J. Hanna</u> P.O. #: _____ Sampler: <u>M. B. Spencake</u> Quote #: _____ Name of state where samples were collected: <u>PA</u>		<b>2</b>		<b>3</b>		<b>4</b>		<b>5</b>		<b>6</b>			
B153-060906 B152-060906 B94-060906 WPM8-060906 WPM11-060906 B163-060906 B145-060906 WPM5-060906 B157-060906 TIP BLANK		6/9/06 1040 6/9/06 1055 6/9/06 1110 6/9/06 0835 6/9/06 0910 6/9/06 1020 6/9/06 1125 6/9/06 0920 6/9/06 1305		X X X X X X X X X		X X X X X X X X X		8260 PAUC 1,2-dichloroethane 8011 EDB 6020 Dissolved Pb 8270 Fluores Phenanthrene Pyrene Naphthalene		Remarks Please provide Equis EDD Dissolved Pb Samples are unfiltered/unpreserved temp 1.6-4.6°C		For Lab Use Only FSC: _____ SCR #: _____	
<b>7</b> Turnaround Time Requested (TAT) (please circle): <u>Normal</u> Rush (Rush TAT is subject to Lancaster Laboratories approval and surcharge.) Date results are needed: _____ Rush results requested by (please circle): _____ Phone _____ Fax _____ E-mail _____ Phone #: _____ Fax #: _____ E-mail address: _____		<b>8</b> Data Package Options (please circle if required) QC Summary Type VI (Raw Data) <u>Yes</u> <u>No</u> Type I (Tier I) GLP <u>Yes</u> <u>No</u> Type II (Tier II) Other <u>Yes</u> <u>No</u> Type III (NJ Red. Del.) <u>Yes</u> <u>No</u> Type IV (CLP) <u>Yes</u> <u>No</u> Site-specific QC required? <u>Yes</u> <u>No</u> (If yes, indicate QC sample and submit triplicate volume.) Internal Chain of Custody required? <u>Yes</u> <u>No</u>		Relinquished by: <u>M. B. Spencake</u> Date: <u>6/9/06</u> Time: <u>155</u> Relinquished by: <u>Van M...</u> Date: <u>6/9/06</u> Time: <u>180</u> Relinquished by: _____ Date: _____ Time: _____ Relinquished by: _____ Date: _____ Time: _____ Relinquished by: _____ Date: _____ Time: _____ Relinquished by: _____ Date: _____ Time: _____		Date: _____ Time: _____ Date: _____ Time: _____ Date: _____ Time: _____ Date: _____ Time: _____ Date: _____ Time: _____		Date: _____ Time: _____ Date: _____ Time: _____ Date: _____ Time: _____ Date: _____ Time: _____ Date: _____ Time: _____		Date: _____ Time: _____ Date: _____ Time: _____ Date: _____ Time: _____ Date: _____ Time: _____ Date: _____ Time: _____		Date: _____ Time: _____ Date: _____ Time: _____ Date: _____ Time: _____ Date: _____ Time: _____ Date: _____ Time: _____	

778 ③  
 2102.02  
 6/9/06

## Lancaster Laboratories

### Explanation of Symbols and Abbreviations

*The following defines common symbols and abbreviations used in reporting technical data:*

<b>N.D.</b>	none detected	<b>BMQL</b>	Below Minimum Quantitation Level
<b>TNTC</b>	Too Numerous To Count	<b>MPN</b>	Most Probable Number
<b>IU</b>	International Units	<b>CP Units</b>	cobalt-chloroplatinate units
<b>umhos/cm</b>	micromhos/cm	<b>NTU</b>	nephelometric turbidity units
<b>C</b>	degrees Celsius	<b>F</b>	degrees Fahrenheit
<b>Cal</b>	(diet) calories	<b>lb.</b>	pound(s)
<b>meq</b>	milliequivalents	<b>kg</b>	kilogram(s)
<b>g</b>	gram(s)	<b>mg</b>	milligram(s)
<b>ug</b>	microgram(s)	<b>l</b>	liter(s)
<b>ml</b>	milliliter(s)	<b>ul</b>	microliter(s)
<b>m3</b>	cubic meter(s)	<b>fib &gt;5 um/ml</b>	fibers greater than 5 microns in length per ml
<b>&lt;</b>	less than – The number following the sign is the <u>limit of quantitation</u> , the smallest amount of analyte which can be reliably determined using this specific test.		
<b>&gt;</b>	greater than		
<b>ppm</b>	parts per million – One ppm is equivalent to one milligram per kilogram (mg/kg), or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter of gas per liter of gas.		
<b>ppb</b>	parts per billion		
<b>Dry weight basis</b>	Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture.		

*U.S. EPA data qualifiers:*

#### Organic Qualifiers

<b>A</b>	TIC is a possible aldol-condensation product
<b>B</b>	Analyte was also detected in the blank
<b>C</b>	Pesticide result confirmed by GC/MS
<b>D</b>	Compound quantitated on a diluted sample
<b>E</b>	Concentration exceeds the calibration range of the instrument
<b>J</b>	Estimated value
<b>N</b>	Presumptive evidence of a compound (TICs only)
<b>P</b>	Concentration difference between primary and confirmation columns >25%
<b>U</b>	Compound was not detected
<b>X,Y,Z</b>	Defined in case narrative

#### Inorganic Qualifiers

<b>B</b>	Value is <CRDL, but ≥IDL
<b>E</b>	Estimated due to interference
<b>M</b>	Duplicate injection precision not met
<b>N</b>	Spike amount not within control limits
<b>S</b>	Method of standard additions (MSA) used for calculation
<b>U</b>	Compound was not detected
<b>W</b>	Post digestion spike out of control limits
<b>*</b>	Duplicate analysis not within control limits
<b>+</b>	Correlation coefficient for MSA <0.995

Analytical test results for methods listed on the laboratories' accreditation scope meet all requirements of NELAC unless otherwise noted under the individual analysis.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff. This report shall not be reproduced except in full, without the written approval of the laboratory.

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